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(54) Title: **IMPROVED METHOD AND APPARATUS FOR REDUCING CROSS CONTAMINATION OF SPECIES DURING ION IMPLANTATION**

(57) **Abstract:** A wafer support for an ion implanter includes a wafer holder and a support arm for the holder in the implant chamber. A portion of the support arm adjacent the wafer holder is at least intermittently exposed to the ion beam during implantation, as a result of the relative scanning of the ion beam and the wafer holder. An arm shield mechanism has a plurality of shielding surfaces which can be selectively disposed to receive the ion beam to protect the exposed portion of the support arm. The shielding surfaces may form a sleeve arranged over the arm which may be rotatable above the arm to present selected surfaces to the ion beam. Cross contamination when successively implanting different species can be reduced by presenting different shield surfaces to the beam.

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